1901MNRAS..61..570D

The two distant meteors I have rejected, and one which I have assigned to Radiant III. may have come from 270+33. Mr. Denning's meteors were mostly on the 21st; there are not enough on other days to prove motion of the radiant.

8. Radiant IV. is probably quite a distinct stream from the true Lyrids (see Denning's Catalogue). Its characteristic bright blue meteors (§ 4) like Roman candles are in strong contrast to the red broad-streaked Lyrids. As to the others (though one must be cautious in drawing deductions from so few meteors), they show no tendency to sequence of appearance in time, *i.e.* to one radiant in motion, but rather contemporaneous activity; and, further, they occupy an area about 10° by 5°, whose length lies much in the same direction as the suspected motion. May not an area of such a shape give the impression of a radiant in motion, and yet really contain stationary radiant points with perhaps variable activity? The shape also suggests some spreading action *in process*, such as Professor Turner suggests as an explanation of stationary radiants; but if so, I do not see how it can be due to the Earth, as it is not parallel to the ecliptic, but to the Milky Way.

---

## *Corrections to reduce the Revised Madras Catalogue of Stars for* 1835·0 *to the Fundamental Catalogue of Auwers* (*Pub. Ast. Gesell.* xiv. and xvii.). By A. M. W. Downing, M.A., D.Sc., F.R.S.

In the recently issued edition of Taylor's Madras Catalogue for 1835 the clock errors were determined from the right ascensions of standard stars in Auwers' Fundamental Catalogue (*Pub. Ast. Gesell.* Nos. xiv. and xvii.), whilst the index errors were determined from the declinations of the same catalogue corrected so as to represent Auwers' Mean System (*Ast. Nach.* No. 1536).

It may be of interest to give here the corrections applicable to the places of the Revised Madras Catalogue to reduce them to the system of Auwers given in *Pub. Ast. Gesell.* Nos. xiv. and xvii.

It should be noted that the mean $\Delta\alpha$ is $+^{s}{\cdot}015$ from 402 stars, and the mean $\Delta\delta$ is $-0''{\cdot}44$ from 297 stars.

The limits of declination for $\Delta\alpha$ and $\Delta\delta$ are determined by the limits adopted for the stars used for clock error and index error respectively.

1901MNRAS..61..570D

## Table I.

*Corrections in order of Declination.*

| Limits of Dec. | Δα | Number of Stars. | Δδ | Number of Stars |
|---|---|---|---|---|
| ° ° | s | | ″ | |
| +70 to +60 | +·101 | 26 | | |
| 60 ,, 55 | +·075 | 19 | | |
| 55 ,, 50 | +·038 | 12 | +0·37 | 14 |
| 50 ,, 45 | +·061 | 18 | +0·47 | 18 |
| 45 ,, 40 | +·092 | 19 | +0·14 | 21 |
| 40 ,, 35 | +·056 | 27 | −0·20 | 28 |
| 35 ,, 30 | +·029 | 19 | −0·13 | 21 |
| 30 ,, 25 | +·019 | 24 | −0·08 | 26 |
| 25 ,, 20 | +·019 | 28 | −0·77 | 24 |
| 20 ,, 15 | +·015 | 26 | −0·65 | 26 |
| 15 ,, 10 | −·030 | 26 | −1·08 | 26 |
| 10 ,, 5 | −·022 | 28 | −0·64 | 29 |
| + 5 ,, 0 | ·000 | 24 | −0·96 | 23 |
| 0 ,, − 5 | −·017 | 18 | −0·61 | 19 |
| − 5 ,, 10 | −·019 | 18 | −0·90 | 22 |
| 10 ,, 15 | −·028 | 21 | | |
| 15 ,, 20 | −·032 | 20 | | |
| −20 ,, −25 | −·043 | 29 | | |

## Table II.

*Corrections in order of Right Ascension.*

| Limits of R.A. | Δα | Number of Stars. | Δδ | Number of Stars. |
|---|---|---|---|---|
| h h | s | | ″ | |
| 0− 1 | +·023 | 17 | −0·49 | 11 |
| 1− 2 | +·009 | 21 | −0·84 | 14 |
| 2− 3 | +·037 | 18 | −0·40 | 15 |
| 3− 4 | +·007 | 22 | −0 68 | 16 |
| 4− 5 | −·017 | 18 | −0·58 | 15 |
| 5− 6 | +·019 | 27 | −0·45 | 24 |
| 6− 7 | +·016 | 14 | −0·70 | 8 |
| 7− 8 | −·014 | 13 | −0·20 | 11 |
| 8− 9 | +·021 | 12 | −0·24 | 8 |
| 9−10 | −·011 | 14 | −0·63 | 9 |
| 10−11 | +·042 | 18 | −0·25 | 7 |
| 11−12 | −·006 | 18 | −0·69 | 13 |
| 12−13 | +·035 | 11 | −0·42 | 5 |
| 13−14 | +·022 | 11 | −0·36 | 6 |

S S

1901MNRAS..61..570D

| Limits of R A. | Δα | Number of Stars. | Δδ | Number of Stars. |
|---|---|---|---|---|
| h h | s | | ″ | |
| 14−15 | −·011 | 15 | +0·51 | 14 |
| 15−16 | +·007 | 16 | −0·19 | 18 |
| 16−17 | +·034 | 16 | −0·40 | 12 |
| 17−18 | −·028 | 13 | −0·58 | 12 |
| 18−19 | −·006 | 15 | −0·37 | 11 |
| 19−20 | +·051 | 17 | −0·33 | 17 |
| 20−21 | +·050 | 23 | −0·73 | 15 |
| 21−22 | +·034 | 18 | −0·43 | 12 |
| 22−23 | +·012 | 21 | −0·60 | 13 |
| 23−24 | +·026 | 14 | −0·47 | 11 |

## TABLE III.

### *Reduction Table.*

| Dec. | Δα | Δδ | R.A. | Δα | Δδ |
|---|---|---|---|---|---|
| ° | s | ″ | h | s | ″ |
| +65 | +·101 | | 0 | +·009 | −·04 |
| 60 | +·084 | | 1 | +·001 | −·22 |
| 55 | +·057 | | 2 | +·008 | −·18 |
| 50 | +·050 | +·42 | 3 | +·007 | −·10 |
| 45 | +·077 | +·31 | 4 | −·020 | −·19 |
| 40 | +·074 | −·03 | 5 | −·014 | −·07 |
| 35 | +·043 | −·17 | 6 | +·002 | −·14 |
| 30 | +·024 | −·11 | 7 | −·014 | −·01 |
| 25 | +·019 | −·43 | 8 | −·012 | +·22 |
| 20 | +·017 | −·71 | 9 | −·010 | ·00 |
| 15 | −·008 | −·87 | 10 | ·000 | ·00 |
| 10 | −·026 | −·86 | 11 | +·003 | −·03 |
| + 5 | −·011 | −·80 | 12 | ·000 | −·12 |
| 0 | −·009 | −·79 | 13 | +·014 | +·05 |
| − 5 | −·018 | −·76 | 14 | −·010 | +·52 |
| 10 | −·024 | | 15 | −·017 | +·60 |
| 15 | −·030 | | 16 | +·006 | +·14 |
| 20 | −·036 | | 17 | −·012 | −·05 |
| −25 | −·043 | | 18 | −·032 | −·03 |
| | | | 19 | +·008 | +·09 |
| | | | 20 | +·035 | −·08 |
| | | | 21 | +·027 | −·14 |
| | | | 22 | +·008 | −·08 |
| | | | 23 | +·004 | −·09 |
| | | | 24 | +·009 | −·04 |

The limits of declination for Δα and Δδ are determined by the limits adopted for the stars used for clock error and index error respectively.

1901MNRAS..61..570D

## *Errata in the Revised Madras Catalogue of Stars for* 1835·0.

### By A. M. W. Downing, M.A., D.Sc., F.R.S.

Herr Ristenpart has had the kindness to send me a list of discrepancies between the recorded places of stars in the Revised Madras Catalogue compared with other authorities. An examination of these has enabled me to draw up the following list of errata. I feel greatly indebted to Herr Ristenpart for the trouble he has taken in the matter.

No. 7. Mean Dec. 1835·0, *for* $-3^{\circ}\ 28'\ 38''{\cdot}67$ *read* $-3^{\circ}\ 28'\ 44''{\cdot}67$

No. 48. Mean Dec. 1835·0, *for* $+0^{\circ}\ 46'\ 22''{\cdot}71$ *read* $+0^{\circ}\ 46'\ 15''{\cdot}99$.

No. 320. Mean R.A. 1835·0, *for* $0^{h}\ 55^{m}\ 15^{s}{\cdot}32$ *read* $0^{h}\ 56^{m}\ 15^{s}{\cdot}32$. Precession in R.A., *for* $+3^{s}{\cdot}106$ *read* $+3^{s}{\cdot}107$. Mean Dec. 1835·0, *for* $+6^{\circ}\ 9'\ 48''{\cdot}60$ *read* $+6^{\circ}\ 9'\ 48''{\cdot}64$. Precession in Dec., *for* $+19''{\cdot}478$ *read* $+19''{\cdot}457$.

No. 701. Star's name, *for* 16 Arietis *read* Taylor 705. Delete the references to Bradley and Piazzi.

No. 2928. Mean R.A., 1835·0, *for* $7^{h}\ 8^{m}\ 57^{s}{\cdot}85$ *read* $7^{h}\ 7^{m}\ 57^{s}{\cdot}85$. Mean Dec. 1835·0, *for* $+9^{\circ}\ 44'\ 59''{\cdot}85$ *read* $+9^{\circ}\ 44'\ 59''{\cdot}74$. Precession in Dec., *for* $-5''{\cdot}945$ *read* $-5''{\cdot}862$.

No. 3609. Taylor's No., *for* 3626 *read* $\left\{\begin{matrix}3625\\3626\end{matrix}\right\}$.

No. 3965. Mean R.A. 1835·0, *for* $8^{h}\ 59^{m}\ 51^{s}{\cdot}66$ *read* $8^{h}\ 59^{m}\ 51^{s}{\cdot}69$. Mean Date in R.A., *for* 31·98 *read* 32·11. No. of Obs. in R.A., *for* 7 *read* 12.

No. 3966. Mean R.A. 1835·0, *for* $8^{h}\ 59^{m}\ 51^{s}{\cdot}74$ *read* $9^{h}\ 0^{m}$ ... Mean Date in R.A., *for* 32·29 *read* ... No. of Obs. in R.A., *for* 5 *read* .... Precession in R.A., *for* $+3^{s}{\cdot}467$ *read* $+3^{s}{\cdot}465$. Mean Dec. 1835·0, *for* $+22^{\circ}\ 39'\ 42''{\cdot}29$ *read* $+22^{\circ}\ 39'\ 42''{\cdot}12$. Precession in Dec., *for* $-14''{\cdot}173$ *read* $-14''{\cdot}236$.

No. 5965. Mean Dec. 1835·0, *for* $-2^{\circ}\ 29'\ 47''{\cdot}17$ *read* $-2^{\circ}\ 28'\ 47''{\cdot}17$.

No. 5966. Mean Dec. 1835·0, *for* $+31^{\circ}\ 39'\ 37''{\cdot}45$ *read* $+31^{\circ}\ 40'\ 37''{\cdot}45$.

No. 6040. Star's name, *for* Brisbane 4355 *read* Brisbane 4344. Mean R.A. 1835·0, *for* $13^{h}\ 2^{m}\ 9^{s}{\cdot}11$ *read* $13^{h}\ 1^{m}\ 9^{s}{\cdot}15$. Precession in R.A., *for* $+3^{s}{\cdot}661$ *read* $+3^{s}{\cdot}651$. Mean Dec. 1835·0, *for* $-58^{\circ}\ 41'\ 47''{\cdot}99$ *read* $-58^{\circ}\ 41'\ 47''{\cdot}91$. Precession in Dec., *for* $-19''{\cdot}326$ *read* $-19''{\cdot}348$.

No. 6413. Mean Dec. 1835·0, *for* $+22^{\circ}\ 5'\ 16''{\cdot}61$ *read* $+22^{\circ}\ 5'\ 10''{\cdot}45$.

No. 6718. Mean R.A. 1835·0, *for* $14^{h}\ 17^{m}\ 9^{s}{\cdot}62$ *read* $14^{h}\ 18^{m}\ 9^{s}{\cdot}62$. Mean Dec 1835·0, *for* $-0^{\circ}\ 20'\ 15''{\cdot}12$ *read* $-0^{\circ}\ 20'\ 15''{\cdot}20$. Precession in Dec., *for* $-16''{\cdot}572$ *read* $-16''{\cdot}522$.

No. 7233. Mean R.A. 1835·0, *for* $15^{h}\ 24^{m}\ 42^{s}{\cdot}92$ *read* $15^{h}\ 24^{m}\ 45^{s}{\cdot}37$. Precession in Dec., *for* $-12''{\cdot}574$ *read* $-12''{\cdot}572$.

No. 10179. Magnitude, *for* 9 *read* 6.

*Nautical Almanac Office:*
1901 *June* 22.